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Sang-Duk Lee

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IP Section

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EXAMINER

CHIEN, LUCY P

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/518,460	<b>Applicant(s)</b> LEE ET AL.	
	<b>Examiner</b> LUCY P. CHIEN	<b>Art Unit</b> 2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 8/14/2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 11 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 12-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

***Response to Arguments***

Applicant's arguments with respect to claim 1-10,12-15 have been considered but are moot in view of the new ground(s) of rejection.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claim 1-3,8,9,12-15** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohta et al (US 5673128) and of Yamamoto et al (US 5341231) in view of Tsunoda Tadashi (JP 06-027329)

**Regarding Claim 1,12,**

Ohta et al discloses (Figure 4,6,9) a backlight assembly comprising: a light source (1a) including a plurality of light generating parts that generate a first light; and a light guide plate (3) including i) side surfaces having a plurality of light incident surfaces (1a,1b), ii) a light exiting surface (5) and iii) a light reflecting surface (4) facing the light exiting surface (5), the first light entering into the light guide plate (3) via the light incident surface to form a second light, the second light being reflected on the light reflecting surface (4) toward the light exiting surface (the surface of 3 that is closest to 5) to form a third light, the third light exiting from the light guide plate (3) via the light exiting surface (5), and a thickness of the light guide plate decreasing a direction from the light incident surface to a center of the light guide plate. And a receiving container

for receiving the backlight assembly (11) a liquid crystal display panel (6) received in the receiving container (11), for controlling a transmissivity of the second light using a liquid crystal o display an image and a top chassis (9) combined with the receiving container (11) for fixing the liquid crystal display panel (6) to the receiving container. Wherein the light reflecting surface (4) of the light guide plate is concave (shown curved inwards).

Ohta et al does not disclose having a plurality of luminance-compensating patterns, luminance-compensating patterns are spaced apart from each other. And wherein a size and a density of the luminance-compensating patterns vary according to locations of the luminance compensating patterns on the light exiting surface;

Yamamoto et al (Fig. 10) disclose the luminance-compensating patterns (161c) are spaced apart from each other.

Tsunoda Tadashi discloses (Drawing 8) wherein a size and a density of the luminance-compensating patterns (5,6) vary according to locations of the luminance compensating patterns on the light exiting surface. The patterns size are made larger in the center of the light guide than the edges of the light guide. Also, the patterns are densely populated in the center of the light guide (7). [0004-0005]. Thus, the size and density of the luminance compensating patterns vary according to locations.

It would have been obvious to one of ordinary skill in the art to modify Ohta et al to include Yamamoto et al's luminance-compensating patterns (161c) are spaced apart from each other motivated by the desire provide a uniform illumination display (abstract)to further include luminance compensating patterns varying size and density

according to locations motivated by the desire to provide a uniform luminosity in the light guide. [0005].

Regarding Claim 2,

In addition to Ohta et al, Yamamoto et al and Tsunoda Tadashi as disclosed above, Ohta et al discloses (Figure 4,6,9) the light guide plate comprises first, second, third and fourth side surfaces, and the light source comprises first and second light generating parts disposed adjacent to the first side surface (1a,1b) and the second side surface.

Regarding Claim 3,

In addition to Ohta et al, Yamamoto et al and Tsunoda Tadashi as disclosed above, Ohta et al discloses (Figure 4,6,9) the thickness of the light guide plate (3) decreases gradually to form an arch-shaped light reflecting surface (as shown the thickness decreasing of the light guide plate).

Regarding Claim 8,13,

In addition to Ohta et al, Yamamoto et al and Tsunoda Tadashi as disclosed above, Ohta et al discloses (Figure 4,6,9) a first reflecting member (4) disposed under the light reflecting surface (4) of the light guide plate (3), the first reflecting member (4) reflecting a third light leaked from the light reflecting surface toward the light exiting surface, (the surface of 3 that is closest to 5) the first reflecting member comprising a metal plate and a reflective substance formed on the metal plate and having the same contour as that of the light reflecting surface of the light guide plate (3).

Regarding Claim 9,

In addition to Ohta et al, Yamamoto et al and Tsunoda Tadashi as disclosed above, Ohta et al discloses (Figure 4,6,9) a second reflecting member (2a) covering the light sources (1a) to reflect the first light generated from the light source toward the light guide plate, and the first and second reflecting members (Fig. 9 (4) being integrally formed with each other.

Regarding Claim 14,

In addition to Ohta et al, Yamamoto et al and Tsunoda Tadashi as disclosed above, Ohta et al discloses (Figure 4,6,9) wherein a bottom face of the receiving container(10) has a same contour as that of the light reflecting surface of the light guide plate (3), a electronic component (8) being received in a receiving space under the bottom face of the receiving container.

Regarding Claim 15,

In addition to Ohta et al, Yamamoto et al and Tsunoda Tadashi as disclosed above, Ohta et al discloses (Figure 4,6,9) wherein the receiving container (10) has a same contour as that of the light reflecting surface of the light guide plate (3) and comprises a metal plate (reflector 4) and a reflective substance (4) formed on the metal plate (4), and the receiving container (10) reflecting a third light leaked from the light reflecting surface toward the light exiting surface.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claim 4-6** are rejected under 35 U.S.C. 103(a) as being unpatentable Ohta et al (US 5673128) and of Yamamoto et al (US 5341231) and of Tsunoda Tadashi (JP 06-027329) in view of Koike et al (EP 0663600 A1).

Regarding Claim 4,

Ohta et al, Yamamoto et al and Tsunoda Tadashi disclose everything as disclosed above.

Ohta et al, Yamamoto et al and Tsunoda Tadashi do not disclose the light source further comprises a third light generating part disposed adjacent to the third side surface of the light guide plate, and the first, second and third light generating parts are integrally formed to form a U-shape.

Koike et al discloses the light source further comprises a third light generating part disposed adjacent to the third side surface of the light guide plate, and the first, second and third light generating parts are integrally formed to form a U-shape (Figure 8)(column 9, rows 3-15) to save electric power.

It would have been obvious to one of ordinary skill in the art to modify Ohta et al, Yamamoto et al and Tsunoda Tadashi to include Koike et al's U-shaped light source motivated by the desire to reinforce brightness and to use less amount of electric power.

Regarding Claim 5,

In addition to Ohta et al, Yamamoto et al, Tsunoda Tadashi and Koike et al as disclosed above, Ohta et al discloses (Figure 4,6,9) the light guide plate comprises a

first side surface, a second side surface neighboring the first side surface, a third side surface facing the first side surface, and a fourth side surface facing the second side surface, and the light source comprises a first light generating part disposed adjacent to the first side surface, a second light generating part disposed adjacent to the second side surface, a third light generating part disposed adjacent to the third side surface, and a fourth light generating part disposed adjacent to the fourth side surface

Regarding Claim 6,

In addition to Ohta et al, Yamamoto et al, Tsunoda Tadashi and Koike et al as disclosed above, Ohta et al discloses (Figure 4,6,9) wherein the light reflecting surface has first, second, third and fourth curved faces, each of the curved faces having a predetermined curvature.

**Claim 7** is rejected under 35 U.S.C. 103(a) as being unpatentable over Ohta et al (US 5673128) and of Yamamoto et al (US 5341231) and of Tsunoda Tadashi (JP 06-027329) and of Koike et al (EP 0663600 A1) in view of Funamoto et al (EP 0607453 A1).

Regarding Claim 7,

Ohta et al, Yamamoto et al, Tsunoda Tadashi and Koike et al discloses everything as disclosed above.

Ohta et al, Yamamoto et al, Tsunoda Tadashi and Koike et al do not disclose the first and second light generating parts are integrally formed to form a first L-shaped lamp, and the third and fourth light generating parts are integrally formed to form a second L-shaped lamp.



Funamoto et al discloses (Fig. 19) the first and second light generating parts are integrally formed to form a first L-shaped lamp, and the third and fourth light generating parts are integrally formed to form a second L-shaped lamp to provide a high quality color display with high brightness from the illumination device.

It would have been obvious to one of ordinary skill in the art to modify Ohta et al, Yamamoto et al, Tsunoda Tadashi and Koike et al to include Funamoto et al's L shaped lamps motivated by the desire to provide uniform illumination device with high brightness that has low power consumption (Column 20, rows 1-19).

**Claim 10** is rejected under 35 U.S.C. 103(a) as being unpatentable over Ohta et al (US 5673128) and of Yamamoto et al (US 5341231) and of Tsunoda Tadashi (JP 06-027329) in view of Endo et al (US 5123077)

Regarding Claim 10,

Ohta et al, Yamamoto et al, Tsunoda Tadashi as discloses everything as disclosed above.

Ohta et al, Yamamoto et al, Tsunoda Tadashi does not disclose wherein each of the luminance-compensating patterns has a same size, and the light-compensating patterns are formed denser in a region disposed near a center of the light guide plate than in a region disposed near the light generating part.

Endo et al discloses (column 5, rows 63-37 to Column 6, rows 1-25) wherein each of the luminance-compensating patterns (4b) has a same size, and the light-

compensating patterns are formed denser in a region disposed near a center of the light guide plate than in a region disposed near the light generating part.

It would have been obvious to one of ordinary skill in the art to modify Ohta et al, Yamamoto et al, Tsunoda Tadashi to include the luminance-compensating patterns (4b) has a same size, and the light-compensating patterns are formed denser in a region disposed near a center of the light guide plate than in a region disposed near the light generating part motivated by the desire brighter at the center is suppressed and the light source ensures a more uniform brightness.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LUCY P. CHIEN whose telephone number is (571)272-8579. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (571)272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Lucy P Chien  
Examiner  
Art Unit 2871

/Dung Nguyen/  
Primary Examiner, Art Unit 2871